

Applicant : Gilbert Wolrich et al.  
Serial No. : 10/070,092  
Filed : June 28, 2002  
Page : 2 of 11

RECEIVED  
CENTRAL FAX CENTER

Attorney's Docket No.: 10559-309US1 / P9630US

JAN 05 2006

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

Listing of Claims:

1. (Currently Amended) A hardware-based multithreaded processor comprising:  
a plurality of microengines, each of the microengines comprising:  
a control store;  
controller logic;  
context event switching logic; and  
an execution box data path including an arithmetic logic unit (ALU) and a general purpose register set, the ALU execution box performing functions in response to instructions, one of the instructions causing the ALU execution box to selectively load any specified combination of bytes of data within a transfer register associated with one of the plurality of microengines, with a shifted value of an operand that preserves the bytes of data that are not loaded, with loading using an associated bit mask with each bit of the associated bit mask identifying a different byte of the transfer register.
2. (Cancelled)
3. (Previously presented) The processor of claim 1 wherein the instruction further comprises a field that indicates a left shift n bits, where n is a number from one to thirty-one.
4. (Previously presented) The processor of claim 1 wherein the instruction further comprises a field that indicates a left shift by an amount specified in a lower five bits of the operand of a previous instruction, where the lower five bits is a number from one to thirty-one.

Applicant : Gilbert Wolrich et al.  
Serial No. : 10/070,092  
Filed : June 28, 2002  
Page : 3 of 11

Attorney's Docket No.: 10559-309US1 / P9630US

5. (Previously presented) The processor of claim 1 wherein the instruction further comprises a field that indicates a right shift  $n$  bits, where  $n$  is a number from one to thirty-one.

6. (Previously presented) The processor of claim 1 wherein the instruction further comprises a field that indicates a right shift by an amount specified in a lower five bits of the operand of a previous instruction, where the lower five bits is a number from one to thirty-one.

7. (Previously presented) The processor of claim 1 wherein the instruction further comprises a field that indicates a left rotate  $n$  bits, where  $n$  is a number from one to thirty-one.

8. (Previously presented) The processor of claim 1 wherein the instruction further comprises a field that indicates a right rotate  $n$  bits, where  $n$  is a number from one to thirty-one.

9. (Previously presented) The processor of claim 1 wherein the instruction further comprises an optional token that is set by a programmer and specifies to set arithmetic logic unit (ALU) condition codes based on a result formed in the ALU.

10. (Currently amended) A method of operating a processor comprising:  
selectively loading selectively any combination of bytes of data within a register  
associated with one of a plurality of microengines with a shifted value of an operand, using an  
associated bit mask with each bit of the associated bit mask identifying a different byte of the  
register; and  
clearing the bytes of data that are not loaded.

Applicant : Gilbert Wolrich et al.  
Serial No. : 10/070,092  
Filed : June 28, 2002  
Page : 4 of 11

Attorney's Docket No.: 10559-309US1 / P9630US

11. (Cancelled)

12. (Previously presented) The method of claim 10 further comprising:  
providing a field that indicates a left shift  $n$  bits, where  $n$  is a number from one to thirty-one.

13. (Previously presented) The method of claim 10 further comprising:  
providing a field that indicates a left shift by an amount specified in a lower five bits of the operand of a previous instruction, where the lower five bits is a number from one to thirty-one.

14. (Previously presented) The method of claim 10 further comprising:  
providing a field that indicates a right shift  $n$  bits, where  $n$  is a number from one to thirty-one.

15. (Previously presented) The method of claim 10 further comprising:  
providing a field that indicates a right shift by an amount specified in a lower five bits of the operand of a previous instruction, where the lower five bits is a number from one to thirty-one.

16. (Previously presented) The method of claim 10 further comprising:  
providing a field that indicates a left rotate  $n$  bits, where  $n$  is a number from one to thirty-one.

17. (Previously presented) The method of claim 10 further comprising:  
providing a field that indicates a right rotate  $n$  bits, where  $n$  is a number from one to thirty-one.

Applicant : Gilbert Wolrich et al.  
Serial No. : 10/070,092  
Filed : June 28, 2002  
Page : 5 of 11

Attorney's Docket No.: 10559-309US1 / P9630US

18. (Previously presented) The method of claim 10 further comprising an optional token that is set by a programmer and specifies to load arithmetic logic unit (ALU) condition codes based on a result formed in the ALU.

19. (Currently amended) A method of operating a processor comprises:  
~~loading~~ selectively loading any combination of bytes of data within a register associated with one of a plurality of microengines with a shifted value of an operand, using an associated bit mask, with each bit of the associated bit mask identifying a different byte of the register; and preserving the bytes of data that are not loaded.

20. (Cancelled)

21. (Previously presented) The method of claim 19 further comprising:  
providing a field that indicates a left shift n bits, where n is a number from one to thirty-one.

22. (Previously presented) The method of claim 19 further comprising:  
providing a field that indicates a left shift by an amount specified in a lower five bits of the operand of a previous instruction, where the lower five bits is a number from one to thirty-one.

23. (Previously presented) The method of claim 19 further comprising:  
providing a field that indicates a right shift n bits, where n is a number from one to thirty-one.

24. (Previously presented) The method of claim 19 further comprising:  
providing a field that indicates a right shift by an amount specified in a lower five bits of the operand of a previous instruction, where the lower five bits is a number from one to thirty-one.

Applicant : Gilbert Wolrich et al.  
Serial No. : 10/070,092  
Filed : June 28, 2002  
Page : 6 of 11

Attorney's Docket No.: 10559-309US1 / P9630US

25. (Previously presented) The method of claim 19 further comprising:  
providing a field that indicates a left rotate n bits, where n is a number from one to thirty-one.

26. (Previously presented) The method of claim 19 further comprising:  
providing a field that indicates a right rotate n bits, where n is a number from one to thirty-one.

27. (Previously presented) The method of claim 19 further comprising an optional token that is set by a programmer and specifies to load arithmetic logic unit (ALU) condition codes based on a result formed in the ALU.